WHAT IS CLAIMED IS:

1. A semiconductor device comprising:

a substrate;

a metal wiring formed on the substrate and covered with the films of a high-melting-point metal immediately above and below; and

an interlayer insulating film formed by a plasma CVD method so as to cover the metal wiring.

2. A semiconductor device comprising:

a substrate;

an Al wiring formed on a substrate;

an Al compound layer formed on the side of the Al wiring; and

an interlayer insulating film formed by a plasma CVD method so as to cover the Al wiring and the Al compound layer.

3. The semiconductor device according to claim 2, wherein the Al compound layer is subjected to annealing in a nitrogen atmosphere to nitrogenize the side of the Al wiring.

4. The semiconductor device according to claim 2, wherein the Al compound layer is subjected to annealing in an oxygen atmosphere to oxidize the side of the Al wiring.

5. A semiconductor device comprising:

a substrate;

a metal wiring formed on a substrate;

a buffer layer formed so as to cover the metal wiring; and

an interlayer insulating film formed on the buffer layer by a plasma CVD method.

6. The semiconductor device according to claim 5, wherein any of an SiON film, an SiN film, and a plasma TEOS film is used as the buffer layer.

7. The semiconductor device according to claim 5, wherein the film thickness of the buffer layer is 50 to 200 nm.